

What is claimed is:

1. A methanol reforming catalyst, comprising:
a metal oxide support; and
Pd-Zn alloy that is impregnated in the metal oxide support.
- 5 2. The methanol reforming catalyst according to claim 1, wherein the metal oxide contains Ce oxide or Zr oxide.
3. The methanol reforming catalyst according to claim 1, wherein the metal oxide contains Ce-Zr complex oxide.
4. The methanol reforming catalyst according to claim 1, wherein a
10 weight ratio of Pd and Zn in the Pd-Zn alloy is 1:1 to 1:50.
5. A methanol reforming catalyst, comprising:
at least one type catalyst component selected from the group consisting of
Pd-Zn-Ce based compound, Pd-Zn-Zr based compound, and Pd-Zn-Ce-Zr based
compound.
- 15 6. A method of producing the methanol reforming catalyst set forth in claim 1, comprising:
impregnating a metal oxide with a solution containing Pd and Zn; and
burning the metal oxide that is impregnated with Pd and Zn.
- 20 7. A method of producing the methanol reforming catalyst set forth in claim 5, comprising:
impregnating a metal oxide with a solution containing Pd and Zn; and
burning the metal oxide that is impregnated with Pd and Zn.
8. The method according to ^{claim 6} ~~claims 6 or 7~~, wherein the metal oxide contains Ce oxide or Zr oxide.
- 25 9. The method according to ^{claim 6} ~~claims 6 or 7~~, wherein the impregnating step first impregnates the metal oxide with a Zn-containing solution and then impregnates the metal oxide with a Pd-containing solution.
10. The method according to ^{claim 6} ~~claims 6 or 7~~, wherein a burning temperature used in the burning step is 400 to 600 °C.
- 30 11. The method of claim 10, further comprising:
reducing the metal oxide at 400 to 600 °C.
12. A methanol reformer, comprising:
an inlet port of a gas;
a reaction vessel having the methanol reforming catalyst set forth in
35 claim 1 in its inside and causing a reforming reaction of a gas supplied from the gas inlet port; and

an outlet port of the gas reformed in the reaction vessel.

13. A methanol reformer, comprising:

an inlet port of a gas;

a reaction vessel having the methanol reforming catalyst set forth in

- 5 claim 5 in its inside and causing a reforming reaction of a gas supplied from the gas inlet port; and

an outlet port of the gas reformed in the reaction vessel.

14. A methanol reforming apparatus, comprising:

the methanol reformer set forth in claim 12;

- 10 a methanol supply source;

an oxygen supply source;

a steam supply source; and

a pipe supplying methanol, oxygen, and steam, which are supplied from
respective, supply sources, to the methanol reformer.

- 15 15. A methanol reforming apparatus, comprising:

the methanol reformer set forth in claim 13;

a methanol supply source;

an oxygen supply source;

a steam supply source; and

- 20 a pipe supplying methanol, oxygen, and steam, which are supplied from
respective, supply sources, to the methanol reformer.

16. A fuel cell system, comprising:

the methanol reforming apparatus set forth in claim 14;

a fuel cell;

- 25 a pipe supplying a gas reformed by the methanol reforming apparatus to
the fuel cell; and

a pipe supplying an oxygen-containing gas to the fuel cell.

17. A fuel cell system, comprising:

the methanol reforming apparatus set forth in claim 15;

- 30 a fuel cell;

a pipe supplying a gas reformed by the methanol reforming apparatus to
the fuel cell; and

a pipe supplying an oxygen-containing gas to the fuel cell.

ADD A1>

add B2>